

Notice of Allowability

Application No.

10/507,200

Examiner

Anastasia Midkiff

Applicant(s)

SCHOMBERG, HERMANN

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicant Amendment filed 31 August 2007.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).


* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

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ATTACHMENT TO NOTICE OF ALLOWABILITY

Allowable Subject Matter

Claims 1-20 are allowed.

The following is an examiner's statement of reasons for allowance:

With respect to Claims 1 and 5, the prior art of record teaches many of the elements of the claimed invention, including an x-ray apparatus, and method for its use, which includes: an X-ray source for the emission of an X-ray beam wide enough to completely irradiate an x-ray detector; an X-ray detector for the multiple detection of X-rays after their passage through an object to be examined, being arranged on an object axis, while the X-ray source and detector are displaced along a trajectory; means for changing at least one of the position and the orientation of the X-ray detector relative to the X-ray source; a control unit for displacing the X-ray source and the x-ray detector along the trajectory and for controlling at least one of the position and the orientation of the X-ray detector during the detection of X-rays; wherein the means for changing the position and/or orientation of the X-ray detector are constructed in such a manner that the angle between the central ray of the x-ray beam and the connecting line between the focal point of the source and the center of the detector can assume a value other than zero; wherein the control unit is constructed in such a manner that at least two angular positions are adjusted during the detection of x-rays; and wherein the position and orientation of the x-ray detector relative to the x-ray source is over a range.

However, prior art fails to teach or fairly suggest the system wherein the x-ray beam is conical, and the conical beam is wide enough to completely irradiate the x-ray detector over entire said range, in the manner required by Claims 1 and 5.

With respect to Claim 2, the prior art of record teaches many of the elements of the claimed invention, including an x-ray apparatus, and method for its use, which includes: an X-ray source for the emission of an X-ray beam); an X-ray detector for the multiple detection of X-rays after their passage through an object to be examined, being arranged on an object axis, while the X-ray source and detector are displaced along a trajectory; means for changing at least one of the position and the orientation of the X-ray detector relative to the X-ray source along the trajectory and for controlling the at least one of the position and the orientation of the X-ray detector during the detection of X-rays; the control unit for controlling the orientation of the X-ray detector being constructed in such a manner that one of the edges of the X-ray detector is always situated at right angles to the object axis while the trajectory is being completed, and wherein the x-ray detector and the x-ray source are moveably connected to each other by an arm.

However, prior art fails to teach or fairly suggest the system wherein the x-ray beam is a cone beam and wherein the detector is rotatable around the connecting line extending between the focal point of the X-ray source and the center of the X-ray detector, in the manner required by Claims 1 and 5.

With respect to Claim 10, the prior art of record teaches many of the elements of the claimed invention, including a method for forming x-ray images, comprising: emitting, by an x-ray source, an x-ray beam for detection; by an x-ray detector, of x-rays after their passage through an object to be examined while the x-ray source and the x-ray detector are displaced along a trajectory; wherein, in order to maximize a reconstructable examination zone, moving, during said detection, the x-ray detector so as to off-center position or change orientation of the x-ray detector relative to the x-ray source; wherein a position and an orientation of the x-ray detector relative to the x-ray source is over a range.

However, prior art fails to teach or fairly suggest the method wherein the x-ray beam is conical, *both* offset of position of detector *and* change of orientation of the detector are performed during said detection, and wherein the conical beam is wide enough to completely irradiate the x-ray detector over entire said range, in the manner required by Claim 10.

Claims 3, 4, and 6-20 are allowed by virtue of their dependency upon Claims 1, 5, and 10.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments, see Applicant Amendment, filed 31 August 2007, with respect to objections to the drawings and 35 USC 112, second paragraph rejections of Claims 1-20 have been fully considered and are persuasive. The objections to the drawings and 35 USC 112, second paragraph rejections of Claims 1-20 have been overcome by the amendment.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anastasia Midkiff whose telephone number is 571-272-5053. The examiner can normally be reached on M-F 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on 571-272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Application/Control Number:
10/507,200
Art Unit: 2882

Page 6

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER